

REMARKS

By the office action of August 11, 2006, the Examiner has rejected Claims 1 and 3-15 on various grounds discussed below. The Applicants respectfully traverse these rejections. Reconsideration is requested.

Summary of Rejections

Claims 1 and 3-15 were pending at the time of the Office Action.

Claim 12 was rejected under 35 U.S.C. § 102(e) as being anticipated by Kavanagh, U.S. Pat. 6,854,054.

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen, U.S. Patent 6,640,334 in view of Huh, U.S. Patent 6,584,559.

Claims 1, 3 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen, in view of Huh, and in further view of Kavanagh.

Claims 4, 6, 9 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen, Huh and Kavanagh, in further view of Morgan et al, U.S. Patent Publication No. 2002/0144187.

Claims 5 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen, Huh, Kavanagh and Morgan, in further view of an admitted prior art.

Claims 13 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kavanagh, in view of Synnestvedt, U.S. Patent No. 6,598,057.

Summary of Response

Claims 1, 3, 7, 12 and 14 were amended.

Claims 8 and 13 have been cancelled.

Claims 4-6, and 9-11 remain as originally submitted.

Remarks and Arguments are provided below.

Summary of Claims Pending

Claims 1, 3-7, 9-12 and 14-15 are currently pending following this response.

Claim Rejections - 35 U.S.C. §112

Claims 1 and 3-15 were rejected on the basis that the claims should specifically state soft or warm rebooting as described in the specification.

The independent claims 1, 7, and 12 have each been amended to specify “soft” rebooting.

Claim 3 was rejected on the basis that it recites “a trial run message” and it was not clear if that was the same trial run message of claim 1.

Claim 3 has been amended to specify “the trial run message”.

Claim 13 was rejected on the basis that it recites “The method of claim 12...” and the Examiner asserts that claim 12 does not recite a method.

The Applicants submit that claim 12 specifies “storing a message” which is clearly a method. In order to avoid further confusion on this point, claim 12 has been amended to recite “a method comprising”.

In view of these claim amendments, the Applicants submit that the claims meet the requirements of 35 U.S.C. §112.

Claim Rejections - 35 U.S.C. §102

Claim 12 was rejected as anticipated by Kavanagh, U.S. Pat. 6,854,054.

The Examiner asserts that Kavanagh discloses, in a customer premises telecommunications hub, storing a message in a volatile memory across a reboot process and that a marking in the header of the RAM is analogous to Applicant's claimed message.

By the present amendment, the limitations of claim 13 have been incorporated into claim 12.

The Examiner has rejected claim 13 in view of the Kavanagh reference asserting that the message is a trial run message identifying a new file stored in a memory location which has not been designated as the location of the currently active file.

The Applicants traverse these rejections as they would apply to the amended claim 12.

The Kavanagh reference does not teach storing a message in volatile memory across a reboot. Kavanagh teaches storing data used by various applications, i.e. binary files, across a reboot so that the same applications, i.e. same binary files, can restart with the data it had before the reboot. Kavanagh makes a clear distinction between messages, which are not stored, and the data, which are stored. At col. 5, lines 43-46, Kavanagh states that "a message 314 received by message handler 310

includes a set of data to be stored, a reboot state indicator, and an application identifier for the set of set of data.” At col. 6, lines 37-44, the format for storing the data includes a header 436 having an application (i.e. binary file) indicator, and the data that is being stored for the identified application. The data is stored upon receipt of, and in response to, a message from the application and is returned to the same application during rebooting. None of the stored information comprises a trial run message and none of it points to a new application, i.e. new binary file, that is to be tested on rebooting.

Kavanagh does provide active and alternate partitions of its persistent memory. Kavanagh does not store applications, i.e. binary files, in these partitions. Instead Kavanagh stores operating data for its applications. As an application operates, its operating data changes and from time to time the application sends messages to the memory manager to write the updated data into the persistent memory. At col. 7, lines 41-63, the process for updating the stored data is described. The updated data is first written into the alternate partition and a CRC value is calculated and stored with the data. Then the alternate region is relabeled as the active region and the active is relabeled as the alternate. Then the data in the active is copied into the alternate region, so that both regions have identical data, unless there was an error in copying. The CRC value is used to detect such errors. The reboot process is described at col. 8, lines 35-65. During reboot, the memory manager identifies stored data needed by each application based on the header information. It reads the data from the active region and checks the CRC value. If the CRC value is good, the data is sent to the application which stored the data (not to a new application). If the CRC value is bad, the memory

manager reads data from the alternate region and again checks the CRC value to see if the data is good.

The present invention relates to updating "binary files" which term is clearly defined in the specification as control software, i.e. application software, not data used by applications. See for examples paragraphs 7-10, 12, 21 and 29. The present invention relates to downloading new binary files and testing those new files in a fail safe process that allows the system to return to the previous binary files if the new binary files are not functional.

Kavanagh does not teach or suggest changing or updating its application or control software, i.e. the binary files of the present application. Kavanagh does not teach storing more than one version of its operating software in separate memory locations or downloading new versions into separate memory locations. Kavanagh does not teach and has no need for storing any information, flag or marker indicating which copy of the application software is current, since it only has one copy.

Since Kavanagh does not have old and new copies of its applications, it does not even discuss, much less disclose, providing a trial run message instructing the system to operate with the non-existent new copy of an application upon rebooting.

In view of the substantial differences between Kavanagh and claim 12, Applicants submit that claim 12 is clearly allowable. Since claim 14 and 15 depend from claim 12, Applicants submit that they are also allowable.

Claim Rejections - 35 U.S.C. §103

(9) Claim 7 was rejected over Rasmussen, U.S. Patent 6,640,334 in view of Huh U.S. Patent 6,584,559.

The elements of claim 8 have been added to claim 7 by the present amendment. Claim 8 is shown to be patentable below.

(12) Claims 1, 3 and 8 were rejected over Rasmussen, U.S. Patent 6,640,334, in view of Huh U.S. Patent 6,584,559 and in further view of Kavanagh.

(13) As to claim 1, the Examiner notes that Rasmussen does not disclose two elements:

1. operating the device with the binary file and verifying proper operation of the binary file, and
2. storing a trial run message identifying the binary file in volatile memory.

(14) The Examiner asserts that the Huh reference supplies the first of these disclosures missing from Rasmussen.

The Huh reference does not teach having memory locations storing various versions of the binary code with one flagged as active and one flagged as inactive. Huh does provide a memory location for downloading “new” software as part of the Fig. 2 downloading process. In that process, the download is only verified by a CRC check or

equivalent. If the download into memory is successful, the reboot process of Fig. 3 starts. It is true that the reboot process includes a test to determine if the system is up and running with the new software. If it is not up and running, the reboot process is restarted. If it is up and running, the validation flag is set to "valid". Huh does not teach any designation of the "permanent or latest version of software", block 230 of Fig. 3, as active or inactive. Likewise Huh does not teach designating the "new" software as active or inactive. Huh only teaches designating the new software as "valid" or "invalid". If the "new" software is designated as "invalid", upon reboot, the Huh system must go through the process of Fig. 3 to determine that the "new" software has been indicated "invalid" and must then return to the "permanent or latest version of software". Huh does not provide a flag that directs the system immediately to the active application.

(15) The Examiner asserts that Kavanagh supplies the second of the two missing elements.

As discussed in detail above with reference to claim 12, Kavanagh does not teach storing a trial run message of any kind and does not teach any message having an equivalent or even similar function. Kavanagh has nothing to do with downloading new binary files or verifying proper downloading of such files or verifying proper operation of such files. Kavanagh does not discuss changes in its applications, i.e. binary files. Kavanagh only teaches a system for restoring data to its applications after a reboot.

Neither Rasmussen nor Huh discuss a trial run message or any equivalent message directing a system to start with a binary file that is currently flagged as inactive

or alternate. Since they do not discuss, disclose or even relate to such messages, there is no reason for considering a method for storing such a non-existent message across a reboot.

Kavanagh has nothing to do with verifying proper downloading or operation of new application software and does not teach or suggest having multiple copies of different application software with one designated as active and another inactive.

There is therefore no reason for one skilled in the art to consider combining these references, and if they did, it would not result in the invention of claim 1.

Claim 1 and its dependent claims 3-6 are clearly patentable over the cited references.

(16) As to claim 3, the Examiner notes that Rasmussen does not disclose checking for the existence of a trial run message.

(17) The Examiner asserts that Kavanagh supplies this missing element.

As discussed in detail above, Kavanagh does not teach a trial run message or any equivalent message or function. Claim 3 is clearly patentable over Kavanagh.

(18) As to claim 8 (now incorporated into claim 7), the Examiner asserts that Rasmussen does not disclose:

1. a volatile memory for storing a trial run message;

2. means for, upon receipt of a new binary file, storing in the volatile memory a trial run message identifying the nonvolatile memory section in which the new binary file is stored; and

3. means for, upon rebooting, checking the volatile memory for the presence of a trial run message, and ,if present, operating the hub with the new binary file.

(19) The Examiner asserts that Huh discloses all three of the missing elements, except for storing the trial run message in volatile memory.

Huh does not teach or suggest a trial run message and therefore cannot teach any of the three missing elements suggested by the Examiner.

The Examiner cites col. 2, lines 20-35 for teaching a trial run message. This portion of Huh teaches a validation flag that indicates the various steps the system goes through in validating a new firmware download. Huh provides four (4) validation flags: “empty”, while the download is in process; “pending” while the various validation processes occur; “valid” if the validation was positive; and “invalid” if the validation was negative. These validation flags do not direct any system to operate with software flagged as inactive, when other software is flagged as active. As discussed in detail above, upon reboot after the “new” software has been flagged as “invalid”, the Huh system still goes through the Fig. 3 process in which it must first go to the new software and, upon reading the “invalid” validation flag, it then reboots with the “permanent or latest version of software”.

There is no logical reason for use of a “trial run message” in Huh, because Huh does not flag two different applications programs as active and inactive. Unless one is flagged as inactive, there is no need for a special message instructing the system to ignore the normal rule of starting with the active application and instead start with the inactive application.

(20) The Examiner asserts that Kavanagh discloses storing the trial run message in volatile memory.

While it is true that Kavanagh teaches storing data in volatile memory (and in non-volatile memory), it does not teach or suggest a trial run message. Since Kavanagh does not teach or suggest a trial run message, it cannot teach storing such non-existent trial run message in any memory.

Kavanagh has no need or use for a trial run message. Kavanagh does not teach or even suggest downloading or new applications, storing two copies and designating one copy of the application as active and one as inactive. Kavanagh therefore has no need or even use for a message instructing the system to ignore an active copy of an application and reboot with an inactive copy of the application. Kavanagh teaches rebooting with the one and only copy of the applications while restoring data files generated by the application to the state they were in before the reboot.

Claim 8 (claim 7 after the present amendments), and its dependent claims 9-11 are clearly patentable over the cited references.

CONCLUSION

The Commissioner is hereby authorized to charge payment of any further fees associated with any of the foregoing papers submitted herewith, or to credit any overpayment thereof, to Deposit Account No. 21-0765, Sprint.

Applicants respectfully submit that the present application as amended is in condition for allowance. If the Examiner has any questions or comments or otherwise feels it would be helpful in expediting the application, he is encouraged to telephone the undersigned at (972) 731-2288.

Respectfully submitted,

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